

Innovation or Imitation?

The Impact of Organizational Culture on Market Entry Strategies

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Abstract

We examined the impacts of different kinds of organizational culture on an innovative organizational orientation in China. We used multiple linear regression analysis to test a sample of 300 Chinese companies. The empirical results show that adhocracy culture fosters an innovative organizational strategy while hierarchical culture promotes an imitative strategy. Furthermore, the findings provide evidence that China's unique cultural characteristics show differences from previous Western-based studies. The authors suggest that organizational culture should be given more importance by managers if they seek innovation/imitation strategies.

Key Words: Organizational culture, Market entry strategy, Innovation

In modern economies, firms are faced with more changes than before. If the firms are to survive and thrive in a changing environment which demands different architectures of product, creates new networks of value, alters the industry's economics, and destroys current competencies, they must grow and change, that is, enhance their innovative capability. There is evidence that a dominant competitive position can be led by generation of innovations (Banbury and Mitchell, 1995) and that one of the key drivers of firm performance is new product innovations (Lee, Smith and Grimm, 2003).

However, some researchers conclude that academia and the business community may have overstated the benefits of innovation and an early market entry. For instance, Golder and Tellis (1993) show the fact in their study that in 50 product categories there are only four market pioneers who continue to be the market share leaders. The average market share of the pioneers is only 10%, but their failure rate is up to 47%. In comparison, the late market entrants or followers retain a larger average market share (28%) but have a lower failure rate (8%). Based on some scholars, firms which implement an imitation strategy can take advantage of the innovator's efforts to develop products and markets and then surpass the innovator with their improved products and services (Shankar, Carpenter, Krishnamurthi, 1998; Zhang and Markman, 1998) and finally gain competitive advantages.

Since innovation strategy and imitation strategy each have their own advantages, among researchers who wish to find out which factor leads firms to choose distinct strategies, the

issue has been given more attention (Damanpour, 1996; Mavondo, Chimhanzi and Stewart, 2005).

Carmeli (2005) believes that organizational culture is one of the elements which has a significant impact on innovation. As it influences the behavior of employees, the employees may be caused by organizational culture to consider innovation as the fundamental organizational value and to have a greater feeling of business participation (Hartmann, 2006).

The authors of this paper believe that organizational culture is an essential factor promoting innovative behavior among the members of an organization. Moreover, it is believed that distinct types of organizational culture are required on the basis of the firms' strategic orientation, whether it is innovation or imitation.

In spite of the importance of culture as an impetus to innovation, there are a limited number of empirical studies on this issue. Only a few researchers are paying attention to the impact of organizational cultures on a firm's innovation strategy, and most of them are concentrated on some cultural characteristics rather than distinguishing the types of culture. Another limitation of existing studies on innovation strategic orientation is that most research has been carried out in the USA and European countries, which makes the universality of the results of their studies to other economies an unresolved question. The research about the relationship of culture and innovation orientation in Asian firms remains lacking. Finally, there are rarer studies emphasizing the relation between organizational cultures and firms innovation orientation, imitative versus innovative.

To fill these gaps of previous research, we studied the impact of organizational culture on innovation strategic choice in Chinese firms. First, the related literature about this issue are reviewed in this paper. Second, by using a sample of 130 Chinese firms, an empirical study is conducted. Finally, there is a discussion where the results and limitations and suggestions for future research are presented.

Theoretical Framework

There is much attention paid to innovation strategic orientation, and evidence shows that pioneers and followers have different performances because of the different orientation (Bowman and Gatignon, 1996; Robinson and Min, 2002; Utterback, 1994).

Generally speaking, the literature makes a differentiation between distinctive orientation — innovative and imitative (Zhou, 2006). Innovative orientation means the type of strategy by which firms develop and launch new products and services with innovative features in order to enter the market earlier than their rivals (Varadarajan and Peterson, 1992). On the contrary, firms with an imitation orientation adopt competitors' ideas and technologies. Also they try to preclude the high costs relevant to staple scientific research and new technology development (Ferrell and Lukas, 2000). The papers state that firms with the innovative orientation are pioneers or early entrants while firms of imitation orientation are marked as followers or later entrants (Ali, Krapfel and Labahn, 1995; Manu, 1992; Robinson, Fornell and Sullivan, 1992; Zhou, 2006).

Innovative orientation and imitative orientation are both basic elements of market entry strategies. The timing of market entry can be described as a quantitative, strategic decision, which is often used to resolve a problem of entry strategy: shall a company attempt to become an early entrant or a later entrant (Gary and Eunsang, 1990)? Ali et al. (1995) believe that entry strategy variables contains the following four aspects: market pioneer (innovation orientation), advantage of product, relative price and relative promotion work. From another point

of view, the timing of market entry is considered to be one of the factors determining the “innovation orientation” (Manu, 1992).

Innovation strategy can improve new product introduction, but the imitation strategy is also feasible to enter the market. According to Zhou (2006), to introduce a new product, innovative strategy is not a unique option, since there can only be one pioneer in the market of any product. Imitation strategy is still feasible and more common than innovation. Even though a successful innovator can perform better than later market entrants, can establish a larger market share, and have an early competitive advantage, imitators still can achieve an advantageous status and provide clients with better products and services than innovators (Shankar, Carpenter and Krishnamurthi, 1999), because imitators can use lower imitation costs, have free-rider effects and scope economies, adopt competitors ideas and technologies, and learn lessons from the pioneers (Lieberman and Montgomery, 1988). In addition, imitators can develop their products and services through the existing products and information (Schnaars, 1994).

Several studies about “entry timing” have already been conducted. Many of those concentrate on the impact of entry timing on product or technology performance (Gatignon and Xuereb, 1997; Iyer, Laplaca and Sharma, 2006; Shamsie, Phelps and Kuperman, 2004). However, few empirical studies have showed what factors have an effect on the timing of market entry. A number of scholars have pointed out that the pioneers and followers’ properties, skills and resources configurations are all different (Lieberman and Montgomery, 1998; Murthi, Srinivasan and Kalyanaram, 1996; Schoenecker and Cooper, 1998). In this regard, the literature indicates specialized assets (Mitchell, 1991), internal financial resources, advantageous abilities and competitiveness (Lieberman and Montgomery, 1998), direct sale staffs (Schoenecker and Cooper, 1998), and in-depth research and development, design and culture of the organization (Droge, Calantone, and Harmancioglu, 2008; Matsuno, Mentzer and Ozsomer, 2002) as determinants of entry timing. Robinson et al. (1992) indicated that early entrants possessed conspicuously more distinct skills and resources configurations than later entrants.

Organizational culture is considered to be the values, beliefs and hidden assumptions which the organization members have in common (Cameron and Quinn, 1999; Denison, 1990; Deshpandé and Webster, 1989; Miron, Erez and Naveh, 2004). An organizational cultural profile includes various types of characteristics by which organizational effectiveness is affected. Involvement, consistency, adaptability, and a sense of mission are identified as four different cultural characteristics (Denison and Mishra, 1995). Sinha (2000) considers values, behaviour, relationships, technology, structure, procedure, goals and objectives in organization as the components of organizational culture classified into soft culture, work-centric nurturant culture and technocratic culture.

The literature gives an assent to the importance of organizational culture to innovation strategy. Various research works have concluded that the organizational culture plays a key role in innovation. The main viewpoint is that organizational members’ innovative behaviour can be motivated by organizational culture since the culture can cause them to acknowledge innovation as an organization’s elementary value and can support its commitment (Hartmann, 2006). In addition, culture and management behaviour have a close relationship and may be stimulation or an obstruction to change or innovation (Boonstra and Vink, 1996). Since innovation is a complex dealing at the organizational level, it requires a stable and well-established foundation — organizational culture.

The issue of which type of organizational culture enhances or inhibits innovation has not been clear in the literature. In addition, studies analyzing empirically whether different types

of organizational culture are necessitated by innovation or imitation orientation have not been conducted so far.

In order to resolve this issue, we used the Competing Values Framework (CVF) model posed by Cameron and Quinn (1999). Although Reigle (2001) and Wallach (1983) have used some other organizational culture typologies, as one of the most widespread typologies; the Competing Values Framework has been adopted in some empirical studies (Deshpandé et al., 1993; Igo and Skitmore, 2006; Lau and Ngo, 2004; Obenchain and Johnson, 2004; Stock et al., 2007).

The Competing Values Framework uses two dimensions — flexibility and discretion versus stability and control, and external focus versus internal focus and integration, defining four types of organizational cultures: clan, adhocracy, market and hierarchic.

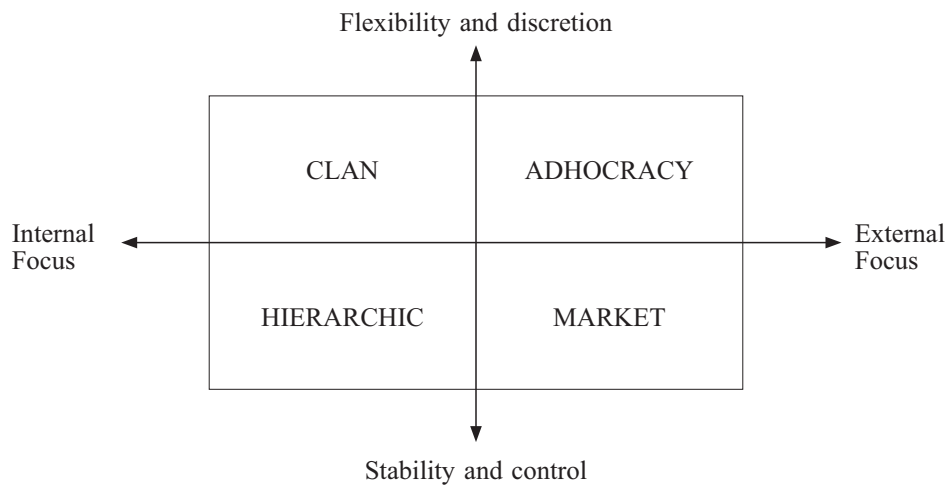


Figure 1 Competing Values Framework (CVF)^a

Source: ^a Cameron and Quinn (1999)

Clan culture stresses flexibility but it focuses on the internal organization, which is characterized by a very friendly working environment. Members are combined together via a sense of affiliation and belonging, and they are part of a common social system or clan. Adhocracy culture is featured by flexibility and an external focus. Experiments, innovative approach, thinking and uniqueness characterize this type of culture. Creativity, growth, external support, resource acquisition, entrepreneurship and risk taking are the key values underlying adhocracy culture. Market culture has external orientation, but it is control focused. Its emphasis is competitiveness, productivity, clear goals, efficiency, and accomplishment. And lastly, hierarchic culture has a controlled orientation but an internal focus. This type of culture attaches importance to information management, documentation, stability, routine, centralization, continuity, and control. In a hierarchic culture, members are kept together by internal controls that uphold rules, policies and procedures.

For the purpose of determining which types of organizational culture impact positively or negatively on innovation or imitation, the two dimensions of the CVF model are studied. In this model's first dimension, stability/flexibility, the flexibility-oriented culture is expected to facilitate an innovation orientation, while the stability-oriented is expected to improve imitation orientation. The reason is that flexibility, or lack of formality, implies a positive innovative strategy orientation (Matsuno et al., 2002) because creativity can be encouraged by autonomy and freedom, while stability, followed by bureaucratic control, uses procedures and regulations, hierarchies of authoritativeness and other mechanisms normalizing and evaluating

outputs (Ouchi, 1979) to realize efficiency. By “playing it safe” and attempting assurance, i.e. imitative orientation, in the internal operation process, efficient bureaucratic organizations realize their efficiency (Covin and Slevin, 1989). Similarly, Child (1973) provided evidence that the participation of employees in deputizing and authorizing them in decision making (i.e. lack of centralization) promotes the organization members’ learning and development, indicating that they can undertake the risk of innovation better. Child (1973) also pointed out that the members’ capacity to adapt to changing environment will be restricted by rules and regulations of organization, meaning the members are unlikely to accept the risk of innovation. Hence, the adverse conditions of looking for new development opportunities will lead firms to take an imitative orientation approach. Seen in this light, a conclusion can be made that flexibility facilitates innovative orientation while stability precipitates imitative orientation. As for the internal/external focus, the second dimension, studies argue that cultures with an external focus related to innovative orientation, while cultures with an internal focus related to imitative orientation. These arguments are supported by some empirical studies. Detert (2000) and Kimberly and Evanisko (1981) indicate that externally oriented organizations normally possess various mechanisms to improve their ability to have access to information about their commercial environment, therefore, the atmosphere will be conducive to the generation of innovation in the business. Similarly, Droge (2008) claims that a positive strategic orientation requires a higher market orientation level to look for new opportunities in the market and to take action from these opportunities. Likewise, Lukas and Ferrell (2000) suggest that a firm can envisage the changing conditions of the market and react to the demands of the market through market orientation. For these authors, firms that concentrate on external elements, such as clients, rivals and the general environment, build innovative behaviors based on external information and on the “good practices” that other firms follow. Elsewhere, Deshpandé (1993) indicated that an internal focused culture would make firms less advertent adverse to a changing market, something essential to innovation processes. From these evidences above, it can be summed up that externally oriented organizational cultures improve breakthrough innovation while the cultures with an internal focus cause an imitation orientation. These foregoing conclusions can lead to the interpretation that the sort of organizational culture which is most conducive to innovation is adhocracy culture, because flexibility and external orientation are its two most characteristic values. The hierarchical culture, on the other hand, with stability and internal focus, would stimulate imitative orientation more. Consequently, we propose the following hypotheses:

- H1. *Adhocracy culture will have a positive effect on innovative orientation.*
- H2. *Hierarchic culture will have a positive effect on imitative orientation.*

Methodology

Data Collection and Sample

Data for this study is cited from Chinese Enterprise and Companies Database (CECDB), which is jointly developed by Wanfang Data Company Limited and nearly 100 Chinese information agencies, founded in 1988. CECDB contains detailed information on nearly 200,000 enterprises in 96 industries, including enterprise basic information (e.g. enterprise’s name, persons in charge, enterprise location, telephone number and corporate profile), enterprise products and services information (e.g. product name, specifications model, product description) and other subsidiary information (e.g. ownership, size, annual turnover). We selected 300 firms located in four major cities (Beijing, Dalian, Shanghai, Shenzhen) in China, which

have more than 1,000 employees. These firms are separately located in the north, east and south of China and span diverse industrial fields, increasing the generalization of our findings. For each firm, a senior manager (e.g., CEO, vice president, product manager, and marketing manager) was chosen as the key respondent because our field interviews found that these organizational leaders had a better understanding of the corporate mission, philosophy, strategy, culture, etc.

In total, 130 valid questionnaires were obtained, yielding a response rate of 43.33 per cent. Respondent and non-respondent companies were compared in terms of size and performance. No significant differences were found between those two groups, suggesting no response bias.

Measures

Innovative vs. imitative orientation: The previous research has measured innovation strategic orientation in various aspects, such as the character of market pioneer or pioneering (Ali et al., 1995; Manu, 1992), the quick response to the actions of rivals (Zhou, 2006), the clever reaction to the changes generated by competitors (Langerak and Hultink, 2008) and the significance of being the first one to initiate innovative products into the market (Zhou, Yim and Tse, 2005). We use a 5-point Likert scale ranging from 1 (strong disagreement) to 5 (strong agreement) (Cronbach's $\alpha=0.899$) to measure the innovation strategic orientation. It covers the innovations' proactive or reactive character, the clever reaction to other firms' innovative products/services in the same business field, the R&D efforts and involved time/person/team/training. If these variables have higher values, the firm's innovation posture is stronger. The lower values of these variables show a stronger imitation orientation.

Organizational culture: We use the Organizational Culture Assessment Instrument (OCAI) developed by Cameron and Quinn (1999) to measure organizational culture. Organizational culture has been measured this way in previous research (Dasanayaka, 1986; Deshpandé et al., 1993; Naranjo-Valencia et al., 2011; Simberova, 2009) and it has been validated by several authors (Dasanayaka, 1986; Simberova, 2009). We use the six dimensions it puts forward: dominant characteristics, leadership style, management of employees, organization glue, strategic emphases and criteria of success. According to the OCAI methodology, a questionnaire includes 24 questions which are divided into six parts (in accordance with the six dimensions in the model). In each part, there are four descriptions corresponding to the definitions of the four culture types in the OCAI model: clan, adhocracy, market and hierarchic (Cronbach's $\alpha=0.922$). On a 5-point Likert scale ranging from 1 (strong disagreement) to 5 (strong agreement), respondents reported their perceptions of their organizational culture features.

Statistical Analysis

In this study, Cronbach's Alpha coefficient was used to evaluate the internal reliability of the scale. The data shows that the innovation strategic orientation reliability was 0.859; the culture types of organizational culture reliabilities, adhocracy and hierarchic cultures, were 0.826 and 0.823 respectively, which is greater than the criteria of 0.70 (Nunnally and Bernstein, 1994). The innovation strategic orientation rating scale and the scale of organizational cultures have a higher reliability to achieve the reliability requirements of research and analysis. The hypotheses were tested using correlation analysis and multiple linear regression analysis. Judged by the standardized regression coefficient (Beta value) of the contribution rate of the dependent variable to independent: the greater the value, the greater the variable contribution to the dependent variable; if the value is positive, then there is a positive impact

of independent variables on the dependent variable. When the independent variables' regression coefficient (β) is significant with the expected sign, R^2 supports the hypotheses. The basic descriptive statistics and correlations of the measures are presented in Table 1.

Table 1 Means, standard deviations and correlations among variables

Variables	Mean	SD	1	2	3
Adhocracy	3.54	0.72	1		
Hierarchy	2.94	0.68	−0.475***	1	
Innovative orientation	3.46	0.62	0.814***	−0.505***	1

Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Results

The effect of organizational culture on the innovation orientation is proposed in the two hypotheses of this study. In particular, adhocracy culture affects innovation orientation positively, while hierarchical culture has a positive role in imitative orientation. For the purpose of testing these hypotheses, the variables of adhocracy culture and hierarchical culture entered the equation independently. Table 2 shows the results obtained.

Table 2 Results of multiple linear regression analysis for H1 and H2

Variables	Model 1	Model 2
Adhocracy	0.734***	
Hierarchy		−0.436***
F	90.303***	15.020***
ΔR^2	0.620***	0.201***

Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

In terms of H1, the findings suggest that adhocracy culture, which is characterized by both external focus and flexibility orientation, affects innovation strategy positively and significantly ($\beta = 0.68$; $p < 0.01$).

As we proposed in our H2, analyses provided the evidence of a negative relation between hierarchical culture and innovative orientation ($\beta = -0.48$; $p < 0.01$). That means that an organizational culture which emphasizes internal focus and a control orientation will foster an imitative orientation. Overall, the results support H1 and H2.

Moreover, additional analyses were executed to make a thorough inquiry of the deeper relationship between organizational cultures and firm innovation. In particular, the impact of each dimension of the two cultural types' on the innovation and imitation variables was analyzed, and regression analysis was used again. Table 3 shows the results.

We had some interesting findings from our results. First, the findings indicate that not all of each cultural dimension impacts the firm's innovation orientation in the same way. Second, these findings help us determine whether different innovation orientations are affected positively or negatively by each dimension of adhocracy culture and hierarchic culture. With regard to adhocracy culture, as anticipated, dominant characteristics, leadership style, organization glue, strategic emphases and criteria for success play a positive role in innovative orientation. However, the management of employees, the third dimension of this type of

Table 3 Results of the additional regression analysis

Y-Innovative orientation (.vs. imitative orientation) Variables	Model 3
Dominant characteristics for adhocracy	0.180***
Leadership style for adhocracy	0.128**
Management of employees for adhocracy	−0.087***
Organization glue for adhocracy	0.114***
Strategic focus for adhocracy	0.117**
Criteria of success for adhocracy	0.095**
Dominant characteristics for hierarchy	
Leadership style for hierarchy	
Management of employees for hierarchy	
Organization glue for hierarchy	
Strategic focus for hierarchy	
Criteria of success for hierarchy	
F	41.297***
R ²	0.670

Notes: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

culture, affects innovative orientation negatively. For hierarchic culture, the five dimensions of dominant characteristics, management of employees, organization glue, strategic emphases and criteria for success have a positive relationship with imitation in comparison with innovation as we expected. However, different from our anticipation, the second dimension of hierarchic culture — leadership style — affects innovative orientation positively. In the next section, we will discuss these findings.

Discussion

The relation between organizational culture and market entry strategy is focused on in this paper. Although the literature shows that organizational culture and a firm's strategic decision-making are related, few studies empirically access the evidence on this issue, which is a void that this paper seeks to fill.

Our results provide evidence for this kind of relationship. Particularly, we found that adhocracy culture is positively linked to innovation and hierarchical culture has a negative relation with the imitation orientation of the firm. These results are consistent with the theoretical literature (Detert, Schroeder and Mauriel, 2000; Menzel, Aaltio and Ulijn, 2007) and verify the previous studies about the relationship between organizational cultures and a firm's innovation strategy.

Also, the findings of this paper are consistent with the research which proposes that some hierarchic culture features, for example, rules and regulations, and formal organizational structure, are positively correlated with imitative orientation. In addition, our results concerning the relationship between adhocracy culture and innovative orientation are in accord with the conclusions of some studies on the characteristics of adhocracy culture, such as empowerment (Gudmundson, Tower and Hartman, 2003), creativity (Scott and Bruce, 1994; Shrivastava and Souder, 1987), risk taking (Jamrog et al., 2006; Wallach, 1983), freedom and autonomy (Martins and Terblanche, 2003).

Although the findings are related to the previous literature, this paper mainly contributes

to the study of how a firm's innovation strategies are affected by each dimension of the adhocracy and hierarchic cultures. Our results suggest that the relation within cultures of organization and innovation strategies is intricate and further research is needed.

Firstly, the findings reveal that the second dimension, leadership style, promotes innovation in opposition to imitation. This dimension of adhocracy culture means that the leadership style which the managers adopt in the organization should reflect innovating, entrepreneurship, or risk taking. Therefore, our findings and the research about adhocracy culture are consistent. In accordance with our results, the leadership style of a hierarchic culture also impacts innovation positively as opposed to imitation. This result is opposite to the most of literature, which suppose that controlled and structured organizations boost an imitative orientation rather than an innovative one (Child, 1973; De Brentani, 2001). This sort of traditional assumption has been criticized by recent studies. For instance, for the pioneers coordination and smooth-running efficiency are considered as a very important capability to help firms obtain prior learning, from which innovations are increased (Lieberman and Montgomery, 1988). Particularly, in light of China as an emerging country, the low cost policy and high efficiency in providing products/services is the key to business success (Kotler, 2002).

Secondly, with regard to the dimension of the management of employees, we also got blended results. Concerning the hierarchic culture, as estimated, this dimension affects innovation orientation negatively. This finding reveals that promoting employment security, consistency, stability and predictability helps followers more than pioneers. But the results of adhocracy culture exemplify that adhocracy culture is not consistent with the supposition which the literature generally put forward. We found that it has a negative impact on innovative orientation. These results may be explained by the idea that adhocracy culture greatly emphasizes individual heroism and showing personal uniqueness. These features are quite different from the moderate culture which has existed in China for a long time making Chinese employees unwilling to show themselves boldly for innovation. Additional analyses illustrates that when team working is a focus in the management of employees, innovation is increased.

Lastly, the results of our paper and the previous literature have a similar view with respect to the other four dimensions: dominant characteristics, organization glue, strategic emphases and criteria of success. The dominant organizational characteristics indicate what the organization the employees work in is alike. This dimension of adhocracy culture means that the firm is a place with dynamism and entrepreneurship, and employees here have a spirit of risk-taking. On the contrary, the dominant characteristics of hierarchic culture means organizations with control and structured orientation, are enhancing imitation rather than innovation.

The organizational glue dimension is the employees' shared values. The results of our study indicate that organization glue impacts innovation positively relative to imitation when the shared values are committed to change and innovation. Alternatively, when these values highlight hierarchic as well as formal policies and rules, the organization glue dimension affects innovation negatively compared with imitation.

With regard to the strategic emphases dimension, the adhocracy culture has a positive relationship with the innovation orientation when a firm is focusing on obtaining new resources and creating new challenges. Conversely, the relationship between hierarchic culture and imitation is positive when the firm focuses on permanence and stability.

Likewise, when the criteria of success for a firm is to be an innovator or a product leader, this dimension is in positive correlation with innovation while this dimension has a positive relation with imitation when efficiency, smooth schedule, low-cost production and delivery

reliability are considered as the firm's criteria of success.

To sum up, the first main contributions this paper made is that the relationship between organizational culture and the innovation/imitation strategies of a firm should be inspected empirically. There are rare empirical studies about the effect of organizational culture on innovation/imitation strategies although previous literature underlies this issue. Second, the empirical evidence provided by this paper reveals that organizational culture has different effects on a firm's innovation/imitation strategies. Particularly, it found that adhocracy culture is preferable for the innovative orientation while hierarchic culture suits the imitative orientation more. Third, the findings reveal there is a more intricate relationship of organizational cultures and innovation strategies than the previous literature suggested. Even though the majority of cultural dimensions affect the firm's innovation strategies is the same with expectation, the effect of the management of employees in adhocracy culture and the leadership style in hierarchic culture on innovation strategy is opposite to the assumptions of this paper.

Some implications for practitioners can be concluded by these results. With the purpose of being successful in realization of their innovation or imitation strategies, firms ought to keep an eye on organizational culture. Particularly, if the strategy of innovation is employed, the firm should cultivate the values of an adhocracy culture, primarily dedicated to being an innovator, building a place with dynamism and entrepreneurship where employees are likely to take risks, and creating an environment where team-work is emphasized. As Zhou (2006) suggests, the Chinese market provides an environment more feasible to innovators than imitators and, in China, an innovation strategy is a preferable option to the imitative one, so Chinese firms should establish an adhocracy culture in order to provide more innovative products and services. Opposite to this, if a firm intends to be a product follower or a market later entrant, in most cases a hierarchic culture is advisable. Efficiency, reliable delivery, formal rules and policies, lean production, chain of command and control should become the focus of the firm.

Despite this study's contributions and implications, we should not interpret its results without considering its limitations. Firstly, this paper only utilizes linear regression analysis. Thus we should treat the interaction between the variables with caution. Secondly, the moderator effects of some variables on the culture-innovation relation are not included, such as firm age and firm size. Thirdly, we use the competing value model in the general manner not focusing on China's unique culture. Finally, we just collected the data in this study from a single source. The majority of empirical research about this issue usually adopted single respondents and, on the whole, focused on managers (Al-Khalifa and Aspinwall, 2000; Lau and Ngo, 2004; McDermott and Stock, 2001). But the validity of the research findings can be enhanced by using the multiple informants. These limitations should be addressed in future studies. For example, so as to check the interaction between those relationships, the multiple regression method should be adopted in a future study. Also, the validity of the research findings would be improved by interviewing multiple informants. In addition, some mediator variables in the relationship between organizational culture and innovation orientation should be examined in future research. Firm size, resources and the structure of the organization may act as the mediator variables (Matsuno et al., 2002; Shamsie et al., 2004). Finally, the unique characteristics of Chinese culture could have an effect on the chosen strategic orientation (Zhou, 2006). Thus, more research could study the relationships with Chinese cultural characteristics kept in mind.

References

- Adler, P., & Borys, B. 1996. Two types of bureaucracy: enabling and coercive. *Administrative Science Quarterly*, 41: 61–89.
- Ahmed, P. 1998. Culture and climate for innovation. *European Journal of Innovation Management*, 1(1): 30–43.
- Ali, A., Krapfel, R., & Labahn, D. 1995. Product innovativeness and entry strategy: impact on cycle time and break-even time. *Journal of Product Innovation Management*, 12: 54–69.
- Al-Khalifa, K. N., & Aspinwall, E. M. 2000. Using the competing values framework to identify the ideal culture profile for TQM: a UK perspective. *International Journal of Manufacturing Technology & Management*, 2: 1024–40.
- Arad, S., Hanson, M., & Schneider, R. 1997. A framework for the study of relationships between organizational characteristics and organizational innovation. *The Journal of Creative Behavior*, 31(1): 42–58.
- Atuahene-Gima, K., & Ko, A. 2001. An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation. *Organization Science*, 12(1): 54–74.
- Banbury, C. M., & Mitchell, W. 1995. The effect of introducing important incremental innovations on market share and business survival. *Strategic Management Journal*, 16: 161–82.
- Boonstra, J. J., & Vink, M. J. 1996. Technological and organizational innovation: a dilemma of fundamental change and participation. *European Journal of Work and Organizational Psychology*, 5(3): 351–76.
- Bowman, D., & Gatignon, H. 1996. Order of entry as a moderator of the effect of the marketing mix on market share. *Marketing Science*, 15(3): 222–42.
- Burns, T., & Stalker, G. 1994. *The management of innovation*. Oxford: Oxford University Press.
- Burns, T., & Stalker, G. M. 1961. *The management of innovation*. London: Tavistock Publishing.
- Cameron, K. S., & Quinn, R. E. 1999. *Diagnosing and changing organizational culture-based on the competing values framework*, Addison-Wesley, Reading, MA.
- Carmeli, A. 2005. The relationship between organizational culture and withdrawal intentions and behavior. *International Journal of Manpower*, 26(2): 177–95.
- Carpenter, G. S., & Nakamoto, K. 1989. Consumer preference formation and pioneering advantage. *Journal of Marketing Research*, 26: 285–298.
- Child, J. 1973. Predicting and understanding organizational structure. *Administrative Science Quarterly*, 18: 168–85.
- Covin, J. G., & Slevin, D. P. 1989. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(1): 75–87.
- Damanpour, F. 1987. The adoption of technological, administrative, and ancillary innovations: impact of organizational factors. *Journal of Management*, 13: 675–88.
- Damanpour, F. 1996. Organizational complexity and innovation: developing and testing multiple contingency models. *Management Science*, 42(5): 693–715.
- De Brentani, U., & Kleinschmidt, E. J. 2004. Corporate culture and commitment: impact on performance of international new product development programs. *Journal of Product Innovation Management*, 21(5): 309–33.
- Denison, D. 1990. *Corporate Culture and Organizational Effectiveness*, Wiley, New York, NY.
- Denison, D. R., & Mishra, A. K. 1995. Toward a Theory of Organizational Culture and Effectiveness. *Organizational Science*, 6(2): 204–23.
- Deshpandé, R., & Webster, F. 1989. Organizational culture and marketing: defining the research agenda. *Journal of Marketing*, 53(1): 3–15.
- Deshpandé, R., Farley, J. U., & Webster, F. E. 1993. Corporate culture. Customer orientation, and innovativeness in Japanese firms: a quadrad analysis. *Journal of Marketing*, 57(1): 23–37.
- Detert, J., Schroeder, R., & Mauriel, J. 2000. A framework for linking culture and improvement initiatives in organizations. *Academy of management Review*, 25(4): 850–63.
- Droge, C., Calantone, R. J., & Harmancioglu, N. 2008. New product success: is it really controllable by managers in highly turbulent environments?. *Journal of Product Innovation Management*, 25(3): 272–86.
- Ekvall, G. 1996. Organizational climate for creativity and innovation. *European Journal of Work and Occupational Psychology*, 5(1): 105–23.
- Gatignon, H., & Xuereb, J. M. 1997. Strategic Orientation of the Firm and New Product Performance. *Journal of Marketing Research*, 34: 77–90.
- Golder, P. N., & Tellis, G. J. 1993. Pioneering advantage: Marketing logic or marketing legend. *Journal of Marketing Research*, 30(2): 158–70.
- Gudmundson, D., Tower, C., & Hartman, E. 2003. Innovation in small businesses: culture and ownership structure do matter. *Journal of Developmental entrepreneurship*, 8(1): 1–18.
- Hartmann, A. 2006. The role of organizational culture in motivating innovative behaviour in construction

- firms. *Construction Innovation*, 6(3): 159–72.
- Higgins, J., & McAllaster, C. 2002. Want innovation? Then use cultural artifacts that support it. *Organizational Dynamics*, 31: 74–84.
- Howard, L. 1988. Validating the competing values model as a representation of organizational cultures. *The International Journal of Organizational Analysis*, 6(3): 231–50.
- Igo, T., & Skitmore, M. 2006. Diagnosing the organizational culture of an Australian engineering consultancy using the competing values framework. *Construction Innovation*, 6: 121–39.
- Iyer, G., Laplaca, P., & Sharma, A. 2006. Innovation and new product introductions in emerging market: strategic recommendation for the Indian market. *Industrial Marketing Management*, 35: 373–83.
- Jamrog, J., Vickers, M., & Bear, D. 2006. Building and sustaining a culture that supports innovation. *Human Resource Planning*, 29(3): 9–19.
- Jassawalla, A. R., & Sashittal, H. C. 2002. Cultures that support product innovation processes. *Academy of Management Executive*, 16: 42–53.
- Kerin, R. A., Varadarajan, P. R., & Peterson, R. A. 1992. First-mover advantage: a synthesis, conceptual framework, and research propositions. *The Journal of Marketing*, 56(4): 33–52.
- Kets De Vries, M., & Miller, D. 1986. Personality, culture and organization. *Academy of Management Review*, 11: 266–79.
- Kimberly, J. R., & Evanisko, M. J. 1981. Organizational innovation: the influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal*, 24: 689–713.
- Koc, T., & Ceylan, C. 2007. Factors impacting the innovative capacity in large-scale companies. *Technovation*, 27(3): 105–14.
- Kotler, P. 2002. *Marketing management: Analysis, planning and control*. New York: Prentice Hall.
- Langerak, F., & Hultink, E. J. 2008. The effect of new product development acceleration approaches on development speed: a case study. *Journal of Engineering and Technology Management*, 25: 157–67.
- Lau, C. M., & Ngo, H. Y. 2004. The HR system, organizational culture, and product innovation. *International Business Review*, 13(6): 685–703.
- Lee, H., Smith, K. G., & Grimm, C. M. 2003. The effect of new product radicality and scope on the extent and speed of innovation diffusion. *Journal of Management*, 29: 753–68.
- Lieberman, M. B., & Montgomery, D. B. 1988. First-mover advantages. *Strategic Management Journal*, 9: 41–58.
- Lieberman, M. B., & Montgomery, D. B. 1998. First-mover (dis)advantages: retrospective and link with the resource-based view. *Strategic Management Journal*, 19(12): 1111–25.
- Lieberman, Marvin B., & David, B. 1988. First-Mover Advantages. *Strategic Management Journal*, 9: 41–58.
- Lilien, G., & Yoon, E. 1990. The Timing of Competitive Market Entry: An Exploratory Study of New Industrial Products. *Management Science*, 36(5): 568–85.
- Lukas, B., & Ferrell, O. C. 2000. The effect of market orientation on product innovation. *Academy of Marketing Science Journal*, 28(2): 239–48.
- Manu, F. A. 1992. Innovation orientation, environment and performance: a comparison of US and European markets. *Journal of International Business Studies*, 23(2): 333–59.
- Martins, E., & Terblanche, F. 2003. Building organizational culture that stimulates creativity and innovation. *European Journal of Innovation Management*, 6(1): 64–74.
- Mascarenhas, B. 1992. Order of entry and performances in international markets. *Strategic Management Journal*, 13(7): 483–558.
- Matsuno, K., Mentzer, J. T., & Ozsomer, A. 2002. The effects of entrepreneurial proclivity and market orientation on business performance. *Journal of Marketing*, 66(3): 18–32.
- Mavondo, F. T., Chimhanzi, J., & Stewart, J. 2005. Learning orientation and market orientation: relationship with innovation, human resource practices and performance. *European Journal of Marketing*, 39: 1235–63.
- McDermott, C., & Stock, G. 2001. Organizational culture and advanced manufacturing technology implementation. *Journal of Operations Management*, 17(5): 521–33.
- McLean, L. 2005. Organizational culture's influence on creativity and innovation: a review of the literature and implications for human resource development. *Advances in Developing Human Resources*, 7(2): 226–46.
- Menzel, H. C., Aaltio, I., & Ulijn, J. M. 2007. On the way to creativity: engineers as intrapreneurs in organizations. *Technovation*, 27(12): 732–43.
- Miron, E., Erez, M., & Naveh, E. 2004. Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete with or complement each other?. *Journal of Organizational Behavior*, 25: 175–99.
- Mitchell, W. 1991. Dual clocks: entry order influences on incumbent and newcomer market share and survival when specialized assets retain their value. *Strategic Management Journal*, 11: 85–100.

- Muijen, J. J. V., et al. 1999. Organizational culture: the focus questionnaire. *European Journal of Work and Organizational Psychology*, 8(4): 551–68.
- Mumford, M. D. 2000. Managing creative people: strategies and tactics for innovation. *Human Resource Management Review*, 10(3): 313–51.
- Murthi, B., Srinivasan, K., & Kalyanaram, G. 1996. Controlling for observed and unobserved managerial skills in determining first-mover market share advantages. *Journal of Marketing Research*, 33(3): 329–36.
- Obenchain, A., & Johnson, W. 2004. Product and process innovation in service organizations: the influence of org. *Journal of Applied Management and Entrepreneurship*, 9(3): 91–113.
- Obenchain, M. 2002. *Organizational culture and organizational innovation in not-for-profit, private and public institutions higher education*. Fort Lauderdale-Davie, FL: Nova Southeastern University.
- O'Regan, N., Ghobadian, A., & Sims, M. 2006. Fast tracking innovation in manufacturing SMEs. *Technovation*, 26(2): 251–61.
- O'reilly, C., Chatman, J., & Caldwell, D. F. 1991. People and organizational culture: a profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 14(3): 487–516.
- Ouchi, W. 1979. A conceptual framework for the design of organizational control mechanisms. *Management Science*, 25: 833–44.
- Ozer, M. 2006. New product development in Asia: an introduction to the special issue, Industrial Marketing Management. *Industrial Marketing Management*, 35(3): 252–61.
- Quinn, R., & Spreitzer, G. 1991. *The psychometrics of the competing values culture instrument and an analysis of the impact of organizational culture on quality of life*, in Woodman, R. & Pasmore, W. Eds, *Research in Organizational Change and Development*. Greenwich, CT: JAI Press.
- Reigle, F. 2001. Measuring organic and mechanistic cultures. *Engineering Management Journal*, 13(14): 3–8.
- Robinson, W. T., & Min, S. 2002. Is the first to market the first to fail? Empirical evidence for industrial goods businesses. *Journal of Marketing Research*, 34(1): 120–128.
- Robinson, W., Fornell, C., & Sullivan, M. 1992. Are market pioneers intrinsically stronger than later entrants?. *Strategic Management Journal*, 13(8): 609–24.
- Robinson, W. T., & Fornell, C. 1985. Sources of market pioneer advantages in consumer goods industries. *Journal of Marketing Research*, 22(3): 305–17.
- Schnaars, S. P. 1994. *Managing Imitation Strategies: How late entrants seize marketing from pioneers*. New York, NY: The Free Press.
- Schoenecker, T., & Cooper, A. C. 1998. The role of firm resources and organizational attributes in determining entry timing: a cross-industry study. *Strategic Management Journal*, 19: 127–43.
- Scott, S. G., & Bruce, R. A. 1994. Determinants of innovative behavior: a path model of individual innovation in the work place. *Academy of Management Journal*, 37(3): 580–607.
- Shamsie, J., Phelps, C., & Kuperman, J. 2004. Better late than never: a study of late entrants in household electrical equipment. *Strategic Management Journal*, 25: 69–84.
- Shankar, V., Carpenter, G., & Krishnamurthi, L. 1999. The advantages of entry in the growth stage of the product life cycle: an empirical analysis. *Journal of Marketing Research*, 36(2): 269–76.
- Shankar, V., Carpenter, G. S., et al. 1998. Late mover advantage: How innovative late entrants outsell pioneers. *Journal of Marketing Research*, 35(1): 54–70.
- Shrivastava, P., & Souder, W. E. 1987. The strategic management of technological innovations: a review and a model. *Journal of Management Studies*, 24(1): 25–41.
- Sinha, Jai B. P. 2000. *Patterns of work culture: Cases and strategies for culture building*. New Delhi: Sage Publications.
- Stock, G., McFadden, K., & Gowen, C. 2007. Organizational culture, critical success factors, and the reduction of hospital errors. *International Journal Production Economics*, 106: 368–92.
- Utterback, J. M. 1994. *Mastering the dynamics of innovation*. Boston, MA: Harvard Business School Press.
- Wallach, E. 1983. Individuals and organizations: the cultural match. *Training and Development Journal*, 37(2): 29–36.
- Yinghong, W., & Neil, A. M. 2004. Supportiveness of organizational climate, market orientation, and new product performance in Chinese firms. *Journal of Product Innovation Management*, 21(6): 375–88.
- Zhang, S., and Markman, A. B. 1998. Overcoming the early entrant advantage: The role of alignable and nonalignable difference. *Journal of Marketing Research*, 35(4): 413–26.
- Zhou, K. Z. 2006. Innovation, imitation, and new product performance: the case of China. *Industrial Marketing Management*, 35(3): 394–402.
- Zhou, K. Z., Yim, C. K., & Tse, D. K. 2005. The effects of strategic orientations on technology and market-based breakthrough innovations. *Journal of Marketing*, 69: 42–60.